

```
BBBBBBBBBBBBBB      AAAAAAAAAA      SSSSSSSSSSSSSS      RRRRRRRRRRRR      TTTTTTTTTTTTTTTT      LLL
BBBBBBBBBBBBBB      AAAAAAAAAA      SSSSSSSSSSSSSS      RRRRRRRRRRRR      TTTTTTTTTTTTTTTT      LLL
BBBBBBBBBBBBBB      AAAAAAAAAA      SSSSSSSSSSSSSS      RRRRRRRRRRRR      TTTTTTTTTTTTTTTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAAAAAAAAAAAAAAAAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAAAAAAAAAAAAAAAAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAAAAAAAAAAAAAAAAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSSSSSSSSSSSSS      RRR      RRR      TTT      TTT      LLLLLLLLLLLLLLLL
BBBBBBBBBBBBBB      AAA      AAA      SSSSSSSSSSSSSS      RRR      RRR      TTT      TTT      LLLLLLLLLLLLLLLL
BBBBBBBBBBBBBB      AAA      AAA      SSSSSSSSSSSSSS      RRR      RRR      TTT      TTT      LLLLLLLLLLLLLLLL
```

```
BBBBBBBBB      AAAAAA      SSSSSSSS      CCCCCCCC      000000      NN      NN      CCCCCCCC      AAAAAA      TTTTTTTTTT
BBBBBBBBB      AAAAAA      SSSSSSSS      CCCCCCCC      000000      NN      NN      CCCCCCCC      AAAAAA      TTTTTTTTTT
BB      BB      AA      AA      SS      CC      00      00      NN      NN      CC      AA      AA      TT
BB      BB      AA      AA      SS      CC      00      00      NN      NN      CC      AA      AA      TT
BB      BB      AA      AA      SS      CC      00      00      NNNN      NN      CC      AA      AA      TT
BB      BB      AA      AA      SS      CC      00      00      NNNN      NN      CC      AA      AA      TT
BBBBBBBBB      AA      AA      SSSSSS      CC      00      00      NN      NN      CC      AA      AA      TT
BBBBBBBBB      AA      AA      SSSSSS      CC      00      00      NN      NN      CC      AA      AA      TT
BB      BB      AAAAAAAAAA      SS      CC      00      00      NN      NN      CC      AAAAAAAAAA      TT
BB      BB      AAAAAAAAAA      SS      CC      00      00      NN      NN      CC      AAAAAAAAAA      TT
BB      BB      AA      AA      SS      CC      00      00      NN      NN      CC      AA      AA      TT
BB      BB      AA      AA      SS      CC      00      00      NN      NN      CC      AA      AA      TT
BBBBBBBBB      AA      AA      SSSSSSSS      CC      000000      000000      NN      NN      CCCCCCCC      AA      AA      TT
BBBBBBBBB      AA      AA      SSSSSSSS      CCCCCCCC      000000      NN      NN      CCCCCCCC      AA      AA      TT
```

....  
....  
....  
....

```
LL      IIIIII      SSSSSSSS
LL      IIIIII      SSSSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SSSSSS
LL      II      SSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```

```
1 0001 0 MODULE BAS$CONCAT ( ! Concatenate several strings
2 0002 0 IDENT = '1-001' ! File: BASCONCAT.B32
3 0003 0 ) =
4 0004 1 BEGIN
5 0005 1
6 0006 1 *****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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25 0025 1 *
26 0026 1 *
27 0027 1 *****
28 0028 1
29 0029 1 ++
30 0030 1 FACILITY: VAX-11 BASIC
31 0031 1
32 0032 1 ABSTRACT:
33 0033 1
34 0034 1 This module takes up to 254 input strings and concatenates
35 0035 1 them into a result string. The strings can be of any class
36 0036 1 and data type, provided that the length field of the descriptor
37 0037 1 indicates the length of the string in bytes.
38 0038 1
39 0039 1
40 0040 1 ENVIRONMENT: VAX-11 User mode
41 0041 1
42 0042 1 AUTHOR: John Sauter, CREATION DATE: 18-OCT-1979
43 0043 1
44 0044 1 MODIFIED BY:
45 0045 1
46 0046 1 1-001 - Original.
47 0047 1 --
48 0048 1
49 0049 1 !<BLF/PAGE>
```



```
51 0050 1 |
52 0051 1 | SWITCHES:
53 0052 1 |
54 0053 1 |
55 0054 1 | SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
56 0055 1 |
57 0056 1 |
58 0057 1 | LINKAGES:
59 0058 1 |
60 0059 1 |     NONE
61 0060 1 |
62 0061 1 | TABLE OF CONTENTS:
63 0062 1 |
64 0063 1 |
65 0064 1 | FORWARD ROUTINE
66 0065 1 |     BAS$CONCAT : NOVALUE;           ! Concatenate two or more strings
67 0066 1 |
68 0067 1 |
69 0068 1 | INCLUDE FILES:
70 0069 1 |
71 0070 1 |
72 0071 1 | REQUIRE 'RTLIN:RTLPSECT';           ! Declare PSECTS code
73 0166 1 |
74 0167 1 | LIBRARY 'RTLSTARLE';               ! System symbols
75 0168 1 |
76 0169 1 |
77 0170 1 | MACROS:
78 0171 1 |
79 0172 1 |     NONE
80 0173 1 |
81 0174 1 | EQUATED SYMBOLS:
82 0175 1 |
83 0176 1 |     NONE
84 0177 1 |
85 0178 1 | PSECT DECLARATIONS
86 0179 1 |
87 0180 1 | DECLARE_PSECTS (BAS);
88 0181 1 |
89 0182 1 | OWN STORAGE:
90 0183 1 |
91 0184 1 |     NONE
92 0185 1 |
93 0186 1 | EXTERNAL REFERENCES:
94 0187 1 |
95 0188 1 |
96 0189 1 | EXTERNAL ROUTINE
97 0190 1 |     STR$CONCAT,                   ! Concatenate strings
98 0191 1 |     BAS$$STOP : NOVALUE;         ! Signal fatal BASIC error
99 0192 1 |
100 0193 1 | +
101 0194 1 | | The following are the error messages used in this module:
102 0195 1 | |
103 0196 1 | |
104 0197 1 | EXTERNAL LITERAL
105 0198 1 |     BAS$K_STRTOOLON : UNSIGNED (8);   ! String too long
106 0199 1 |
```

```
108 0200 1 GLOBAL ROUTINE BAS$CONCAT (
109 0201 1     DEST_DESC
110 0202 1     ) : NOVALUE =
111 0203 1
112 0204 1  +-
113 0205 1  FUNCTIONAL DESCRIPTION
114 0206 1
115 0207 1      This routine takes up to 254 source strings of any DTYPE and
116 0208 1      CLASS, concatenates them, and assigns that value to the
117 0209 1      destination string.
118 0210 1
119 0211 1  FORMAL PARAMETERS:
120 0212 1
121 0213 1      DEST_DESC.wt.dx      Pointer to destination descriptor
122 0214 1      [INPUT].rt.dx      Pointer to input string. There can
123 0215 1                          be up to 254 of these.
124 0216 1
125 0217 1  IMPLICIT INPUTS:
126 0218 1
127 0219 1      NONE
128 0220 1
129 0221 1  IMPLICIT OUTPUTS:
130 0222 1
131 0223 1      NONE
132 0224 1
133 0225 1  COMPLETION CODES:
134 0226 1
135 0227 1      NONE
136 0228 1
137 0229 1  SIDE EFFECTS:
138 0230 1
139 0231 1      Signals the same as STR$CONCAT, and also signals String too long
140 0232 1      if the result descriptor is dynamic and STR$CONCAT had to truncate.
141 0233 1
142 0234 1  --
143 0235 1
144 0236 1  BEGIN
145 0237 1
146 0238 1  MAP
147 0239 1      DEST_DESC : REF BLOCK [8, BYTE];
148 0240 1
149 0241 1  BUILTIN
150 0242 1      AP,
151 0243 1      CALLG;
152 0244 1
153 0245 1  LOCAL
154 0246 1      CONCAT_STATUS;
155 0247 1
156 0248 1  +-
157 0249 1  Call the string concatenate routine, giving it our parameters.
158 0250 1  --
159 0251 1      CONCAT_STATUS = CALLG (.AP, STR$CONCAT);
160 0252 1
161 0253 1      IF ( NOT .CONCAT_STATUS)
162 0254 1      THEN
163 0255 1          BEGIN
164 0256 1
```

BASS\$CONCAT  
1-001

F 9  
16-Sep-1984 00:09:04 VAX-11 Bliss-32 V4.0-742  
14-Sep-1984 11:54:47 [BASRTL.SRC]BASCONCAT.B32;1

Page 4  
(3)

```
: 165      0257 3      IF (.DEST_DESC [DSC$B_CLASS] EQL DSC$K_CLASS_D) THEN BASS$$STOP (BASS$K_STRTOOLON);
: 166      0258 3
: 167      0259 3
: 168      0260 3
: 169      0261 1      END;
                                ! End of BASS$CONCAT
```

.TITLE BASS\$CONCAT  
.IDENT \1-001\

.EXTRN STR\$CONCAT, BASS\$\$STOP  
.EXTRN BASS\$K\_STRTOOLON

.PSECT \_BASS\$CODE, NOWRT, SHR, PIC, 2

```
00000000G 00      0000 00000
              15      6C FA 00002
              50      50 E8 00009
              04      AC D0 0000C
              02      03 A0 91 00010
              0B      12 00014
              7E      00G 8F 9A 00016
00000000G 00      01 FB 0001A
              04 00021 1$:
```

```
.ENTRY BASS$CONCAT, Save nothing
CALLG (AP), STR$CONCAT
BLBS CONCAT_STATUS, 1$
MOVL DEST_DESC, R0
CMPB 3(R0), #2
BNEQ 1$
MOVZBL #BASS$K_STRTOOLON, -(SP)
CALLS #1, BASS$$STOP
RET
```

```
: 0200
: 0251
: 0253
: 0257
:
:
: 0261
```

; Routine Size: 34 bytes, Routine Base: \_BASS\$CODE + 0000

```
: 170      0262 1
: 171      0263 1 END
: 172      0264 1
: 173      0265 0 ELUDOM
```

!End of module BASS\$CONCAT

#### PSECT SUMMARY

| Name        | Bytes | Attributes   |
|-------------|-------|--|
| _BASS\$CODE | 34    | NOVEC, NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC, ALIGN(2) |

#### Library Statistics

| File                               | -----<br>Total | Symbols<br>Loaded | -----<br>Percent | Pages<br>Mapped | Processing<br>Time |
|------------------------------------|----------------|-------------------|------------------|-----------------|--------------------|
| _S255\$DUA28:[SYSLIB]STARLET.L32;1 | 9776           | 2                 | 0                | 581             | 00:01.0            |



BAS\$CONCAT  
1-001

G 9  
16-Sep-1984 00:09:04  
14-Sep-1984 11:54:47

VAX-11 Bliss-32 V4.0-742  
[BASRTL.SRC]BASCONCAT.B32;1

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(3)

COMMAND QUALIFIERS

:  
: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LISS:BASCONCAT/OBJ=OBJ\$:BASCONCAT MSRC\$:BASCONCAT/UPDATE=(ENH\$:BASCONCAT  
:

: Size: 34 code + 0 data bytes  
: Run Time: 00:03.2  
: Elapsed Time: 00:08.4  
: Lines/CPU Min: 4937  
: Lexemes/CPU-Min: 12577  
: Memory Used: 37 pages  
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